



USDA-NASS
OKLAHOMA
FIELD OFFICE



AGRICULTURAL CHEMICAL USE REVIEW

MARCH 2011

WELCOME to the first issue of the *Agricultural Chemical Use Review*. First, I thank all participants from the agricultural community for their continued support and cooperation – especially the producers who provide data for the *Agricultural Resource Management Survey (ARMS)* as well as the elevators that provided data for the *Post Harvest Chemical Use Survey (PHCUS)*. Without their commitment and participation, this report would not be possible.

This publication is a compilation of related reports issued by USDA's National Agricultural Statistics Service (NASS) in an effort to provide a complete source of statistics relevant to agricultural chemical use.

The statistics in this publication, as well as other chemical usage data, can be accessed on our website: http://www.nass.usda.gov/Statistics_by_Subject/Environmental/index.asp

Please feel free to contact our office with any comments or questions you may have. I hope you find this information useful!

Wilbert Hundl, Jr., Director
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TARGET COMMODITY: WHEAT

Wheat was the target commodity for the latest round of the USDA's National Agricultural Statistics Service (NASS) Chemical Use Program. This program targets different crops each year and serves as the USDA's official source of statistics about on-farm and post harvest chemical use and pest management practices. Wheat was last targeted in 2001 (for the 2000 crop marketing year).

In the fall of 2009, NASS collected **on farm pesticide and fertilizer use and pest management practices** through the Agricultural Resource Management Survey (ARMS) Phase II. The 16 program states included Colorado, Idaho, Illinois, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Texas, and Washington. In Oklahoma, 168 respondents were included in the sample.

In late summer and early fall of 2010, NASS collected **off-farm post harvest pesticide applications and pest management practices** through the Wheat Post Harvest Chemical Use Survey. For this survey, there were 14 program states. In Oklahoma, 149 grain elevators were included in the sample.

Agricultural Chemical Use Wheat Program States 2009-2010



WHEAT PRODUCTION

Wheat planted for the 2009 crop year was the target crop of the chemical use and pest management data collected as part of the Agricultural Resource Management Survey for the program states (*see map on page 1*). The program states accounted for 86 percent of the winter wheat acres planted nationwide in 2009.

Wheat planted in Oklahoma, Colorado, Kansas, and Texas accounted for 55 percent of the nation's planted winter wheat acres.

Wheat: Acreage, Yield, Production, Market Year Average Price, and Value of Production, Selected States, 2009 Crop Year

State	Planted <i>1,000 Acres</i>	Harvested <i>1,000 Acres</i>	Yield per Acre <i>Bushels</i>	Production <i>1,000 Bushels</i>	Market Year Average Price <i>Dollars per Bushel</i>	Value of Production <i>1,000 Dollars</i>
Colorado	2,600	2,450	40	98,000	4.58	488,840
Kansas	9,300	8,800	42	369,600	4.79	1,770,384
Oklahoma	5,700	3,500	22	77,000	4.89	376,530
Texas	6,400	2,450	25	61,250	5.27	322,788

ON-FARM FIELD PESTICIDE AND FERTILIZER APPLICATIONS

In the 16 states surveyed, a total of 80 separate pesticide active ingredients were used on winter wheat. **Herbicides** were the most widely used of the three pesticide classes; applied to 60 percent of the wheat acres planted in the 16 program states, and 53 percent of the wheat planted in Oklahoma. **The use of fungicides and insecticides was far less common.**

Pesticides: Percent of Wheat Acres Treated, Program States and Oklahoma, 2009 Crop Year

Type of Pesticide	Program States <i>Percent</i>	Oklahoma <i>Percent</i>
Herbicide	60	53
Fungicide	7	(1)
Insecticide	6	12

¹ Insufficient reports to publish.

Fertilizers: Percent of Wheat Acres Treated, Program States and Oklahoma, 2009 Crop Year

Type of Fertilizer	Program States <i>Percent</i>	Oklahoma <i>Percent</i>
Nitrogen	83	95
Phosphate	54	55
Potash	16	13
Sulfur	16	(1)

¹ Insufficient reports to publish.

Nitrogen, still the most widely used fertilizer ingredient, was applied to 95 percent of the wheat in Oklahoma. **Phosphate** was applied to over half of the acres while potash and sulfur were used far less extensively.

ON-FARM FIELD PEST MANAGEMENT

Top Pest Management Practices: by Percent of Wheat Acres, Program States and Oklahoma, 2009 Crop Year

Wheat growers reported using several management practices to aid in the deterrence of pests through prevention, avoidance, monitoring, and suppression strategies. In many cases, the top practices used by Oklahoma producers differed from the top practices of the 16 program states.

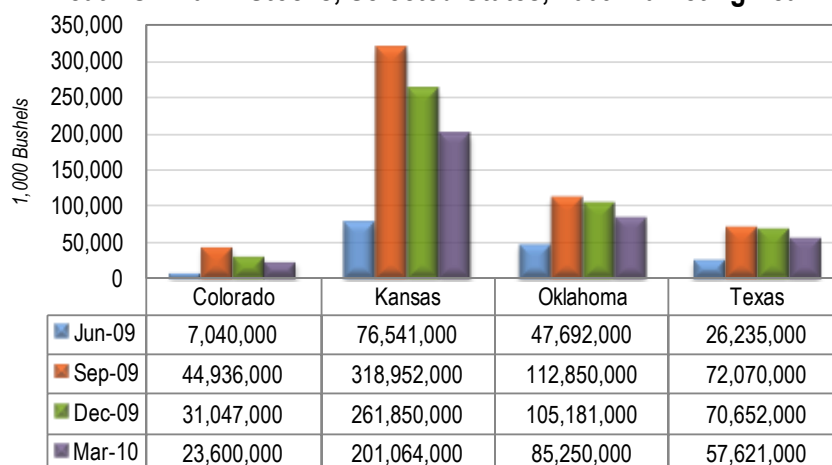
Strategy	Practices	Program States <i>Percent</i>	Oklahoma <i>Percent</i>
Prevention	Equipment & implements cleaned after fieldwork	47	49
	Plowed down crop residue using conventional tillage	36	48
	No-till or minimum till used	55	44
Avoidance	Planting or harvesting dates adjusted	27	25
	Crop or plant variety chosen for specific pest resistance	34	22
	Rotated crops during past 3 years	36	11
Monitoring	Scouted for insects and mites	65	78
	Scouted for weeds	84	76
	Scouted for diseases	61	59
Suppression	Ground covers, mulches, or other physical barriers maintained	39	33

OFF-FARM WHEAT STOCKS

Wheat handled at off-farm storage facilities between **June 1, 2009 and May 31, 2010** was the target of the chemical use data collected from the Post Harvest Chemical Use Survey in the program states (*see map on page 1*). The program states handled 3.24 billion bushels of wheat during the 2009 marketing year.

Wheat handled at off-farm storage facilities in **Oklahoma, Colorado, Kansas, and Texas** accounted for 43 percent of the wheat handled in the program states.

Wheat: Off-Farm Stocks, Selected States, 2009 Marketing Year



OFF-FARM POST HARVEST CHEMICAL APPLICATIONS

Wheat: Post Harvest Chemical Applications, Percent Treated and Total Applied, Selected States, 2000 and 2009 Marketing Years

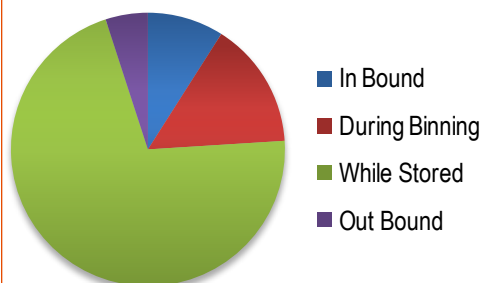
	2000 Marketing Year			2009 Marketing Year		
	Volume Handled	Insecticide		Volume Handled	Insecticide	
	Million Bushels	Percent Treated	Pounds Applied	Million Bushels	Percent Treated	Pounds Applied
Colorado	75.8	18.5	10,300	78.3	20.3	10,700
Kansas	343.4	35.2	24,300	758.4	37.3	108,400
Oklahoma	214.4	48.9	29,800	167.0	63.4	33,400
Texas	426.6	44.8	43,400	373.3	10.0	16,600

In the states surveyed, a **total of 24 separate pesticide active ingredients** were used on wheat handled by off-farm storage facilities during the 2009 marketing year.

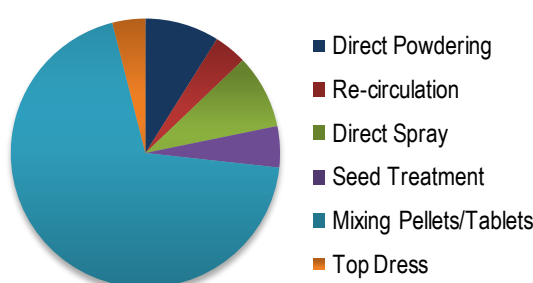
Insecticide active ingredients were the most widely used pesticide class, applied to 18 percent of the wheat handled in all program states and 63 percent of the wheat handled in Oklahoma.

Post-harvest chemical applications occur during different times during the storage process and are applied using a variety of methods.

Applications When Applied



Application Methods



OFF-FARM POST HARVEST PEST MANAGEMENT

Off-farm grain storage facilities used several different mechanical devices and cleaning practices to deter pests. **For all grains handled**, the most commonly used mechanical device was the aeration controller. **The two most common cleaning practices** were controlling vegetation around the bins and picking up spilled grain.

Post Harvest Pest Management: Most Common Mechanical Device and Cleaning Activities, Selected States, 2009 Crop Year

	Mechanical Device: Aeration Controller	Cleaning Activity:	
		Control Vegetation Around Bins	Pick Up Spilled Grain
	Percent of Operations	Percent of Operations	Percent of Operations
Colorado	40	82	84
Kansas	45	98	98
Oklahoma	56	98	98
Texas	43	97	98

This report contains results collected from the Agricultural Resource Management Survey (ARMS) and Post Harvest Chemical Use Survey (PHCUS). Your operation, large or small, represents Oklahoma agriculture. We appreciate your assistance in providing timely and accurate data. Thank you for your support.

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INFORMATION IS POWER

Some of the resources for farmers and ranchers available on our Oklahoma website:

- Oklahoma Annual Statistics Bulletin
- Crop Progress and Conditions
- Livestock Reports
- Crop Reports

Find us on the web at: www.nass.usda.gov/ok

All reports referred to in this special chemical use issue can be found at the USDA NASS website. You can subscribe to electronic delivery of new reports by following the links at:

www.nass.usda.gov/Publications

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